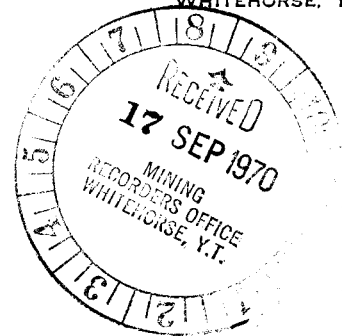


**ARCHER, CATIRO  
AND ASSOCIATES LTD.  
CONSULTING GEOLOGICAL ENGINEERS**

BENTALL CENTRE, VANCOUVER, B.C. 688-3022 OR 522-1562

Post Office Box 1708  
WHITEHORSE, Y.T.

GEOLOGICAL MAPS AND  
Soil and Rock sampling  
Buildozer Trenching



Toni Tiger 1 -32 Claims  
Claim sheet 115-J-14  
Coffee Creek Area  
Whitehorse Mining District



September 3, 1969 - September 1, 1970

Dawson Range Joint Venture

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

\$16,233.38

*D. B. Craig*  
Resident Geologist or  
Resident Mining Engineer

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

*[Signature]*  
Commissioner of the Territory

by  
September 1, 1970

TABLE OF CONTENTS

	<u>Page</u>
Summary .....	1
Recommendations .....	1
Introduction .....	1
Location and Accessibility .....	2
Property and Ownership .....	2
History .....	2
Regional Geology .....	3
Geochemical Survey .....	3
Bulldozer Trenching .....	5
Property Geology .....	5
Mineralization .....	9
Appendix: Assay Certificate	

ILLUSTRATIONS

Figure 1 - Portion of NTS Map 115 NE Showing Location of Toni Tiger (1"=8 mi)	ff 2
Figure 2 - Portion of Staking Sheet 115-J-14 Showing Toni Tiger 1-32	ff 2
Figure 3 - Topo, Geology, Rock Sample Locations (1"= 400 ft)	in pocket
Figure 4 - Geochem Survey: Cu (1" = 500 ft)	" "
Figure 5 - Geochem Survey: Mo (1" = 500 ft)	" "
Figure 6 - Geochem Survey: Au, Ag (1" = 500 ft)	" "
Figure 7 - Geology Trenching and Geochem Results (1" = 100 ft)	" "

## SUMMARY

The Toni Tiger deposit has undergone soil sampling, trenching and mapping. Anomalous Mo values are attributed to disseminated molybdenite in skarn, associated with chalcopyrite, scheelite, arsenopyrite and pyrite. Vertical soil profiles show decreasing Mo grades and the thinly-developed soil cover would indicate that bedrock assays would not be appreciably higher than soils.

## RECOMMENDATIONS

No recommendation for immediate further work is made. If a ripper-equipped bulldozer is in the area, the possibility of exposing bedrock fragments by digging furrows could be considered, particularly where skarniferous zones are indicated. However, the probability of finding an area of ore grade and size directly below the overburden is remote.

## INTRODUCTION

The Toni Tiger claims cover a molybdenum geochemical anomaly that was discovered by regional reconnaissance silt sampling carried out during July and August, 1969. Between September 3-9, a baseline was chained and picketed and the claims were soil sampled and prospected in preliminary fashion. Bulldozer trenching, geological mapping and check geochemical sampling were conducted from June 26 to 30, 1970

under R.E. Culbert, P.Eng. and A.C. Ogilvy, P.Eng.

### LOCATION AND ACCESSIBILITY

Location is shown on Figure 1. Coordinates are  $62^{\circ}49'N$ ,  $139^{\circ}28'W$ , elev. 3500 to 4500 ft. The property lies in the Dawson Range on the crest of a ridge at the headwaters of the west fork of Coffee Creek, about 21 miles northwest of Casino camp and 12 miles southwest of the Yukon River.

At present, the only means of access is by helicopter.

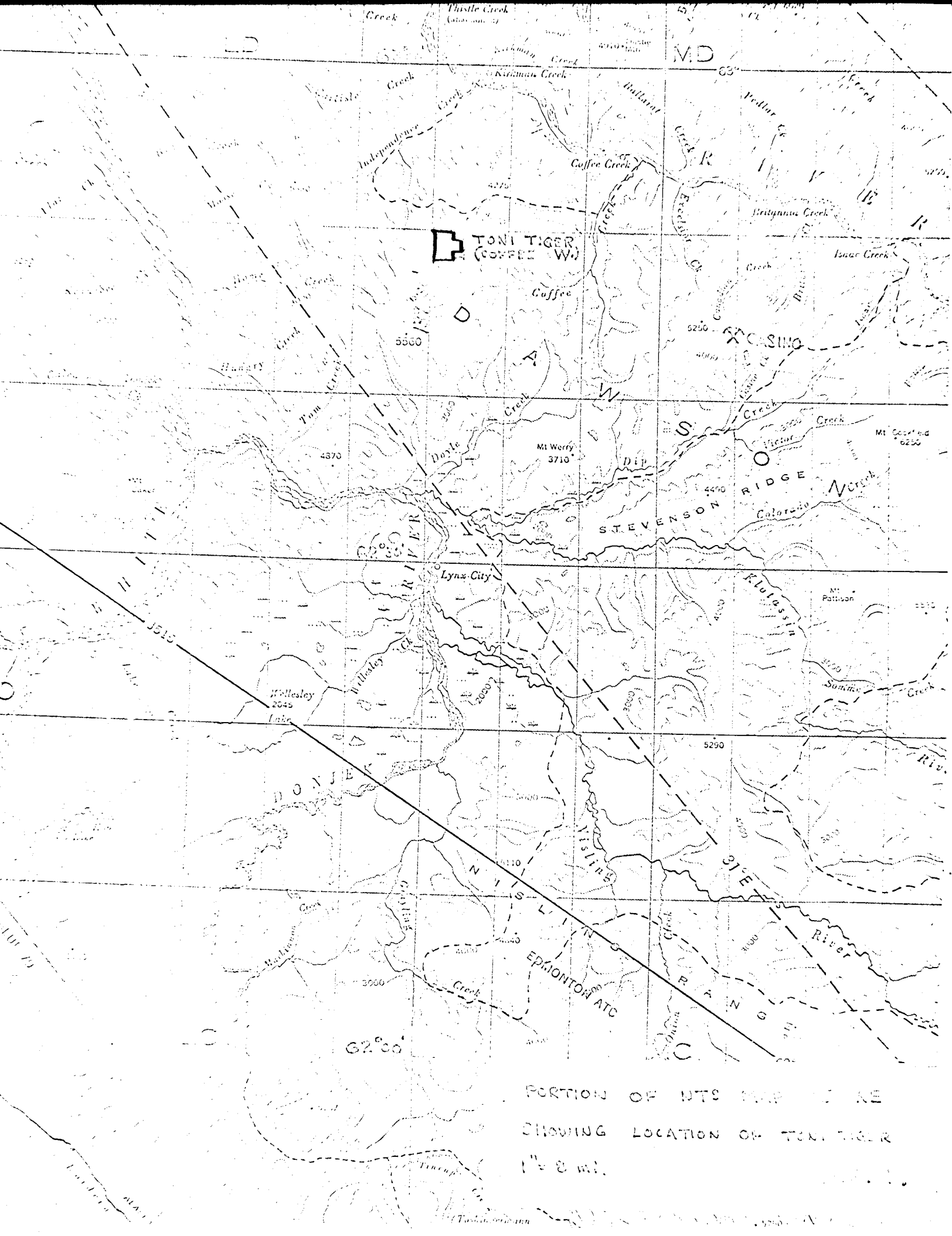
### PROPERTY AND OWNERSHIP

The property consists of Toni Tiger 1-32 M.C.'s, Grant No's Y36916-947. These were staked 22 Aug 1969 and recorded at Whitehorse 3 Sept 1969. They are shown on Staking Sheet 115-J-14 (see Figure 2).

The Toni Tiger claims were staked by Archer, Cathro & Associates Ltd. on behalf of the Dawson Range Joint Venture (DRJV), comprised of Straus Exploration, Trojan Consolidated Mines, Great Plains Dev. Co. of Canada Ltd., and Molybdenum Corp. of America.

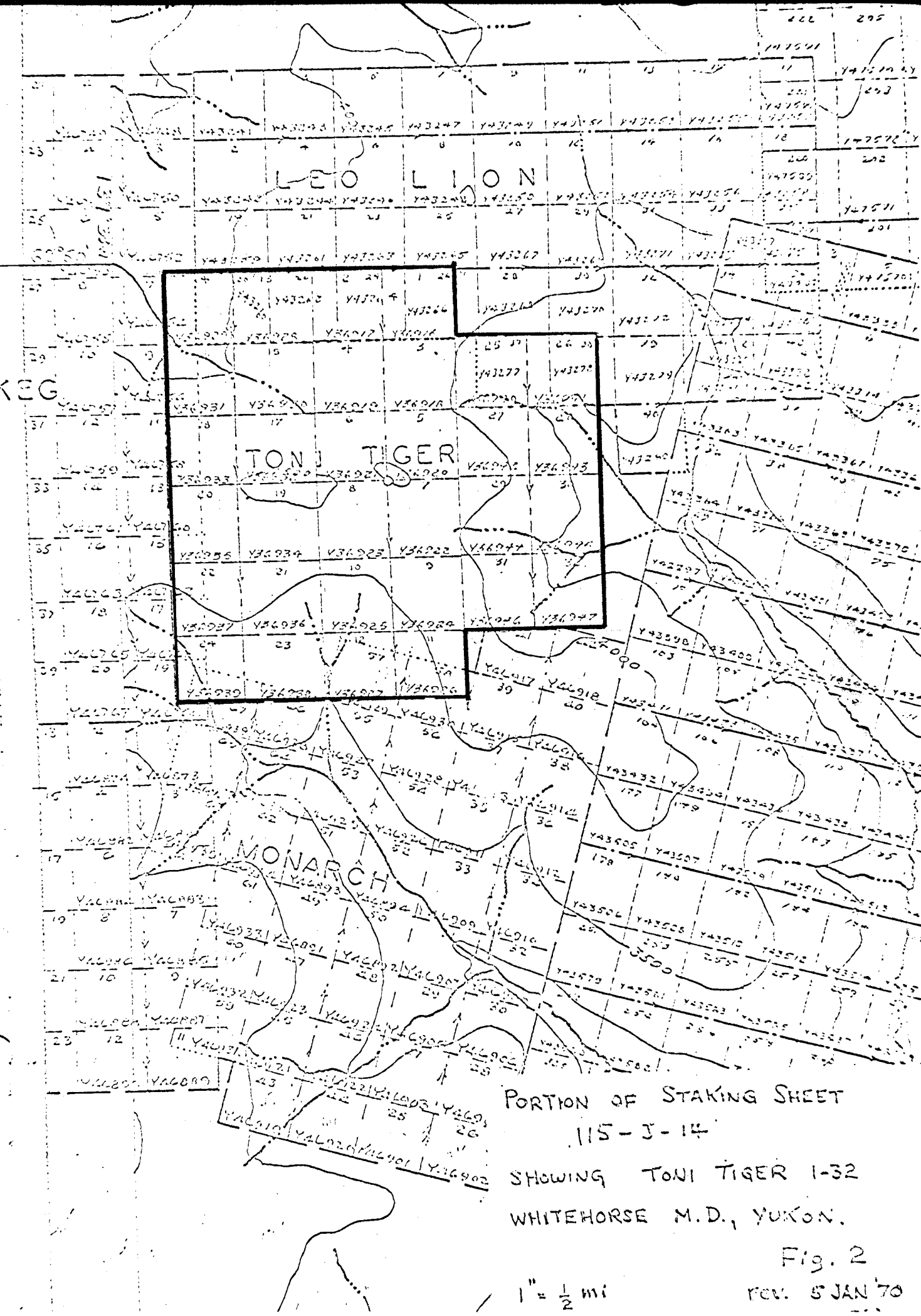
### HISTORY

This is believed to be a new prospect. There is no record or evidence of previous work.



TONI TIGER  
(COFFEE W)

PORTION OF NTS MAP NO. 10  
SHOWING LOCATION OF TONI TIGER  
1/2 & 1/4.



LEO LION

TONI TIGER

MONARCH

PORTION OF STAKING SHEET

115-J-14

SHOWING TONI TIGER 1-32

WHITEHORSE M.D., YUKON.

Fig. 2

REV. 5 JAN '70

1" = 1/2 mi

### REGIONAL GEOLOGY

The claims lie within the Snag map area which has not yet been mapped by the Geological Survey of Canada. Reconnaissance mapping carried out by DRJV indicates that the anomalies lie within the north edge of a 3-mile-wide pendant of Yukon Group rocks within the Klotassin batholith (Coast Intrusives). The belt lies parallel to several ESE-striking aeromagnetic lineaments, putting it on strike with the porphyry copper deposit of Casino Silver Mines Ltd., 20 miles away.

### GEOCHEMICAL SURVEY

Since outcrop is almost non-existent, initial prospecting was restricted to geochemistry. Following a regional silt and soil sampling program, and staking of the claims, a 7500 ft baseline bearing N30°W was chained and picketed. A total of 176 samples were taken at 500 ft centers on lines 500 ft apart and extending for 2500 ft on either side of the baseline. All samples were assayed for Cu, Mo, Au and Ag. Results are shown on Figures 4, 5 and 6 and discussed below.

Molybdenum response was strongly anomalous, as shown in the following frequency table:

Mo assay range (ppm):	0	1-10	11-20	21-50	51-100	100+	Total
Frequency of assays:	91	32	13	17	18	5	176

These assays indicate a triangular area of over 30 acres exceeding 10 ppm, including one southwesterly trending belt and three smaller anomalies totalling 10 acres exceeding 50 ppm.

Copper response was much weaker. Against a background of 40-50 ppm, 25% of the samples exceeded 100 ppm and 4% exceeded 200 ppm (up to 650 ppm). Highest Cu response was along the south margin of the Mo anomaly.

Silver and gold response is quite flat, and shows no significant pattern.

As exposed in the trenches, soil consists of decomposed bedrock with a thin vegetation cover. A and B horizons are thin (several inches to 2 ft) and poorly developed.

Check soil samples were taken from the top of the C horizon at 100 ft intervals in the trenches. In addition, six vertical soil profiles were taken. Results are shown on Figure 7. It is significant that five of the six vertical profiles show an inversion, with molybdenum grades decreasing with depth, indicating either a mechanical residual concentration of  $\text{MoS}_2$  at the erosion surface or a retention of molybdenum in organic matter. In any case, the thin overburden and lack of increase in Mo with depth suggest that the soil response is closely related to bedrock grade.

BULLDOZER TRENCHING

A D-8 bulldozer was engaged for 80 hrs (including 30 hrs walking time) during the period May 21 to 29 to excavate four trenches through permafrost in the vicinity of high Mo geochem responses.

Trenches were measured at 20 ft intervals, giving the following calculated dimensions, measured in feet:

<u>Trench</u>	<u>L</u>	<u>W(avg)</u>	<u>d(avg)</u>	<u>ft<sup>3</sup></u>	<u>yd<sup>3</sup></u>
1	400	14	3.1	17,360	643
2	665	14	2.0	18,620	690
3A	600	15	2.25	20,250	750
3B	60	15	3.0	2,700	100
4A	380	15	3.0	17,100	633
4B	110	17	4.0	7,480	277
4C	140	15	5.0	10,500	389
	<u>2355</u>	<u>14.6</u> (avg)	<u>3</u> (avg)	<u>94,010</u>	<u>3482</u>

PROPERTY GEOLOGY

Outcrop is sparse over the claims. Therefore, except for exposures in the bulldozer trenches, observations were made on in-situ float, and contact relationships are not clear.

Rocks consist of intrusives and Yukon Group metamorphic rocks. Distribution is shown on Figures 3 and 7, and the rocks are described below:

(1) Intrusives

(a) Regional Granitic - coarse to medium grain biotite granodiorite or quartz monzonite borders the

claims to the north and east. Even where apparently occurring as dykes in the metamorphic terrain, this does not show contact variation, with the possible exception of inhomogeneity in the distribution of biotite. Granitic rocks were not found to display either mineralization or directive textures.

(b) Aplitic Complex - this buff weathering rock is usually without mafics and typically almost sugary in texture. On close examination, quartz is occasionally included in a matrix of large feldspar crystals. The rock might generally be mistaken for a quartzite, but is found intruding the granite. Minor pyrite and a few leached pockets were the only signs of mineralization.

## (2) Yukon Metamorphic Complex

Subdivisions of Yukon Group lithology was not successful due to the variety, intermingling, and lack of discreet characteristics among the units. Six phases are shown and described on Figure 7. They vary from dirty quartzites and quartz-muscovite schists to dark rocks such as meta-agillite, greenstone, and amphibolite. In style and grade of metamorphism they run from greenschists to irregularly layered gneisses and members which would elsewhere pass as foliated intrusive rocks. The variation has little obvious relationship to distance

from contact. Description will be limited to two forms (as opposed to units) which appear to be favoured by mineralization.

(a) Green Skarn - this is generally a siliceous rock of light to dark green coloration and uncertain parentage. It contains most of the molybdenite observed and locally displays other sulphides including chalcopryrite. Sulphides tend to occur in quartz veins, in small streaks and blebs, and in disseminated form. The best occurrences of scheelite, moly, and chalcopryrite occur in the skarn zone on the main divide or east thereof. The overall grade appears to be low, but there is some chance of a higher grade zone existing somewhere in the skarn complex, and little may be judged until the assays return. Not enough molybdenum was found in trenches west of the main ridge to explain very well the high soil assays from this area, suggesting that molybdenite may be camouflaged in the silvery schists.

Green skarn is found scattered throughout the area studied, but is mainly concentrated in a zone as outlined on the map. Generally it appears to be true skarn, with garnet common near the ridge crest, and often displaying a pitted weathering surface suggesting limy patches. It is, however, quite variable in compo-

sition, its phases running from a glassy apple green to amphibolitic and gneissic. Furthermore it cuts directly across the regional foliation, which otherwise appears to be bedding trend also. Finally, southwest of the claim group is a region of lower metamorphism. Here a very similar rock may be observed to form by silicification of greenstone, apparently via injection of quartz-carbonate material along axial planes of tight folds. The possibility that "green skarn" is an alterational form should not be excluded.

Immediately adjacent to the eastern part of the green skarn zone lie lightly mineralized quartzites. Mineralization is widespread but mainly on fracture cleavages which appear to be widely spaced.

(b) Southern Sulphide Zone - outside of the "green skarn zone", mineralization ~~is~~ appeared to be localized, although the limited float leaves the question of size open. The one exception is a belt of rocks which are quite rich in sulphides (arsenopyrite, pyrite, chalcopyrite, and minor moly and scheelite) in the southern part of the claim group. This belt is patchy, discontinuous, and crosses several rock types including meta-argillite, gneiss, and skarny gneiss. In some regions the sulphides are quite concentrated. Unlike the green skarns, these rocks weather to an

orangish or reddish brown and hence show up well. Float over much of this zone is poor.

(3) Quartz Veining

Quartz veining occasionally accompanied by calcite, is common through much of the claim area. In some regions there has been regional silicification. Quartz varies from clear to milky or smokey, and judging by boundinage structures was mainly placed prior to or during the last stage of metamorphism which caused crenulation of the schists. Quartz veining and silicification are closely related to mineralization, especially to molybdenite. Locally, fracture fillings and fold axis veining may be related to a late stage of activity, also mineralized.

MINERALIZATION

Mineralization consists of chalcopyrite, molybdenite, scheelite, arsenopyrite, and pyrite disseminated in the various metamorphic rocks. Distribution of observed mineralization is shown on Figure 3. Molybdenite appears to be associated with, and restricted to, a skarn zone. Further trenching would be required to prove this, and also to determine the existence of other sizeable skarn zones.

Alteration and oxidation is weak to absent. Nineteen samples taken for assay are located on Figure 1. Results are shown on the attached assay certificate no. 6106-19.

Respectfully submitted,  
ARCHER, CATHRO & ASSOCIATES LTD.

A handwritten signature in cursive script, appearing to read "A.C. Ogilvy".

A.C. Ogilvy, P.Eng.

CL. NO. \_\_\_\_\_  
 LE NO. \_\_\_\_\_

# ASSAY CERTIFICATE

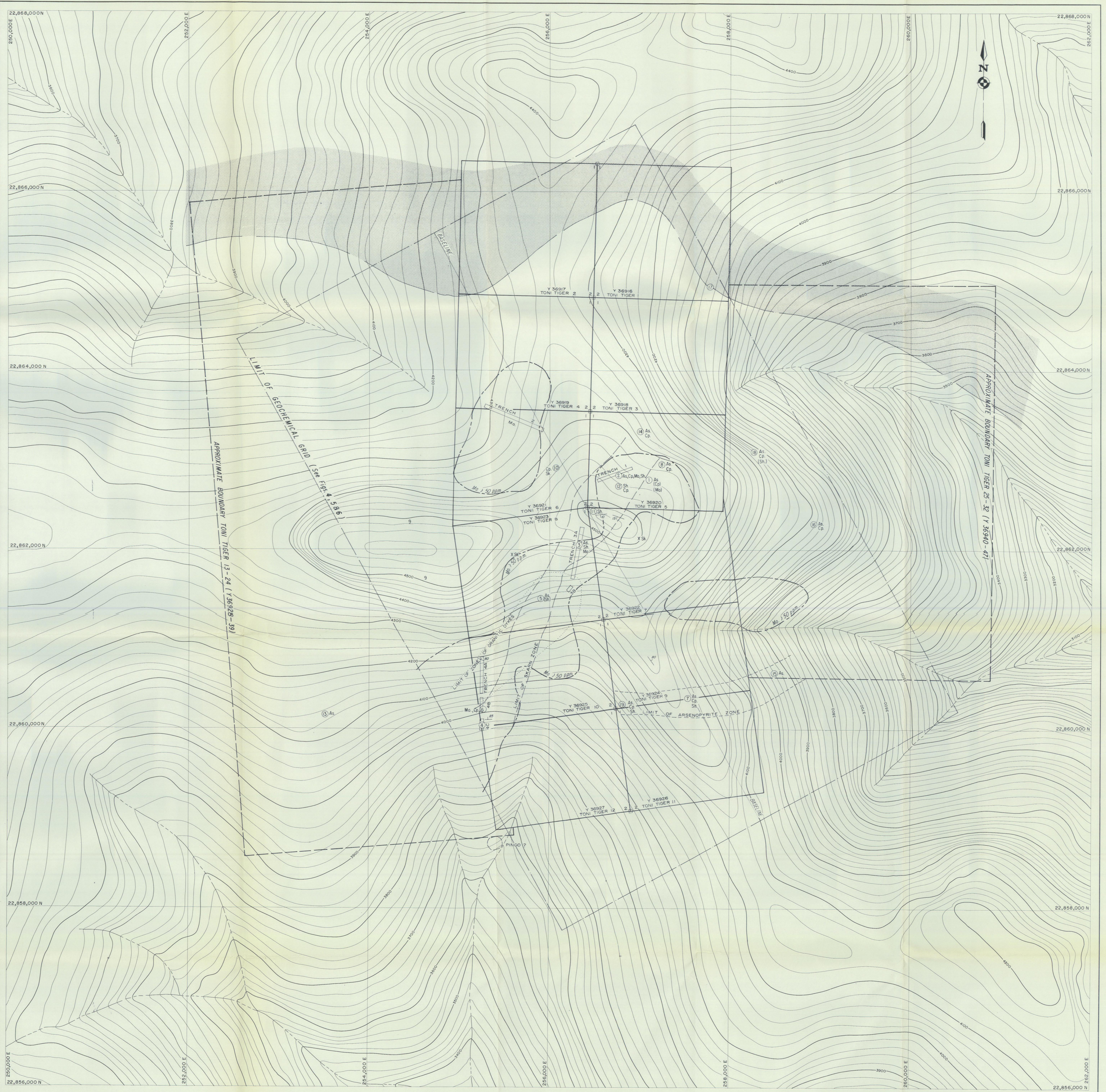
WHITENORSE ASSAY OFFICE

P.O. BOX 500, WHITENORSE, YUKON







RECEIVED 7/13/01




SAMPLE NO.	GOLD GR. PER TON	SILVER GR. PER TON	Copper	Iron	Lead	Zinc	Other
1	100	100					
2	100	100					
3	100	100					
4	100	100					
5	100	100					
6	100	100					
7	100	100					
8	100	100					
9	100	100					
10	100	100					
11	100	100					
12	100	100					
13	100	100					
14	100	100					
15	100	100					
16	100	100					
17	100	100					
18	100	100					
19	100	100					
20	100	100					

ASSAYER Geo. H. Bellamy

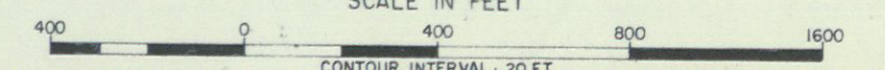


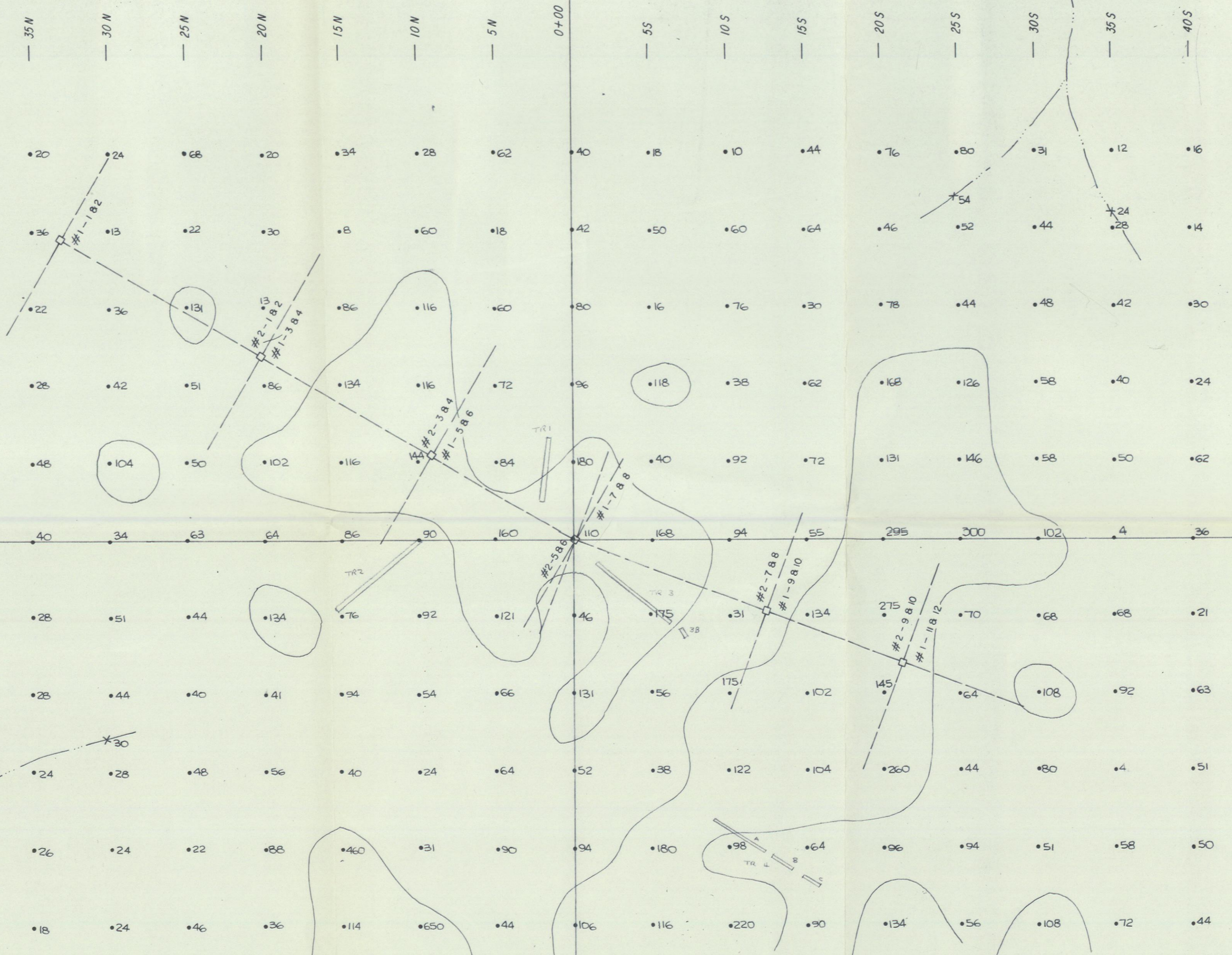
LEGEND

-  Quartz monzonite (Klaskan Batholith)
-  Yukon Group - Gneiss, Quartzite, Skarn, etc.
-  Attitude of foliation (bedding?)
-  Skarn observed outside main skarn zone.
-  Rock sample location
-  Claim Post

-  Arsenopyrite, pyrite
-  Chalcopyrite
-  Molybdenite
-  Scheelite

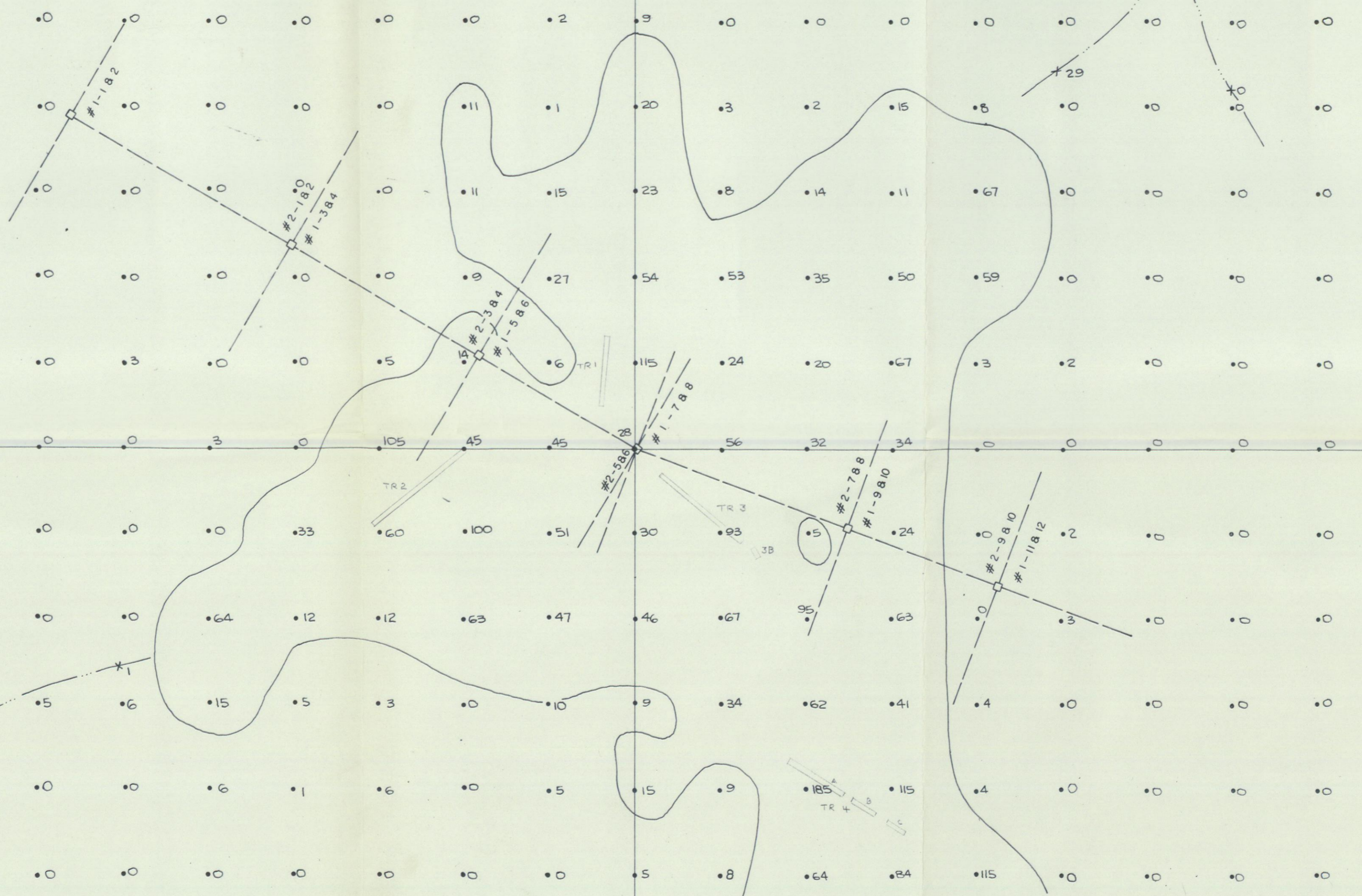
ARCHER, CATHRO & ASSOCS. LTD.  
 TOPOGRAPHY, GEOLOGY & ROCK SAMPLE LOCATIONS  
 TONI TIGER CLAIMS 1-30  
 COFFEE CREEK WEST, WHITEHORSE M.D., YUKON  
 DAWSON RANGE JOINT VENTURE  
 SCALE IN FEET





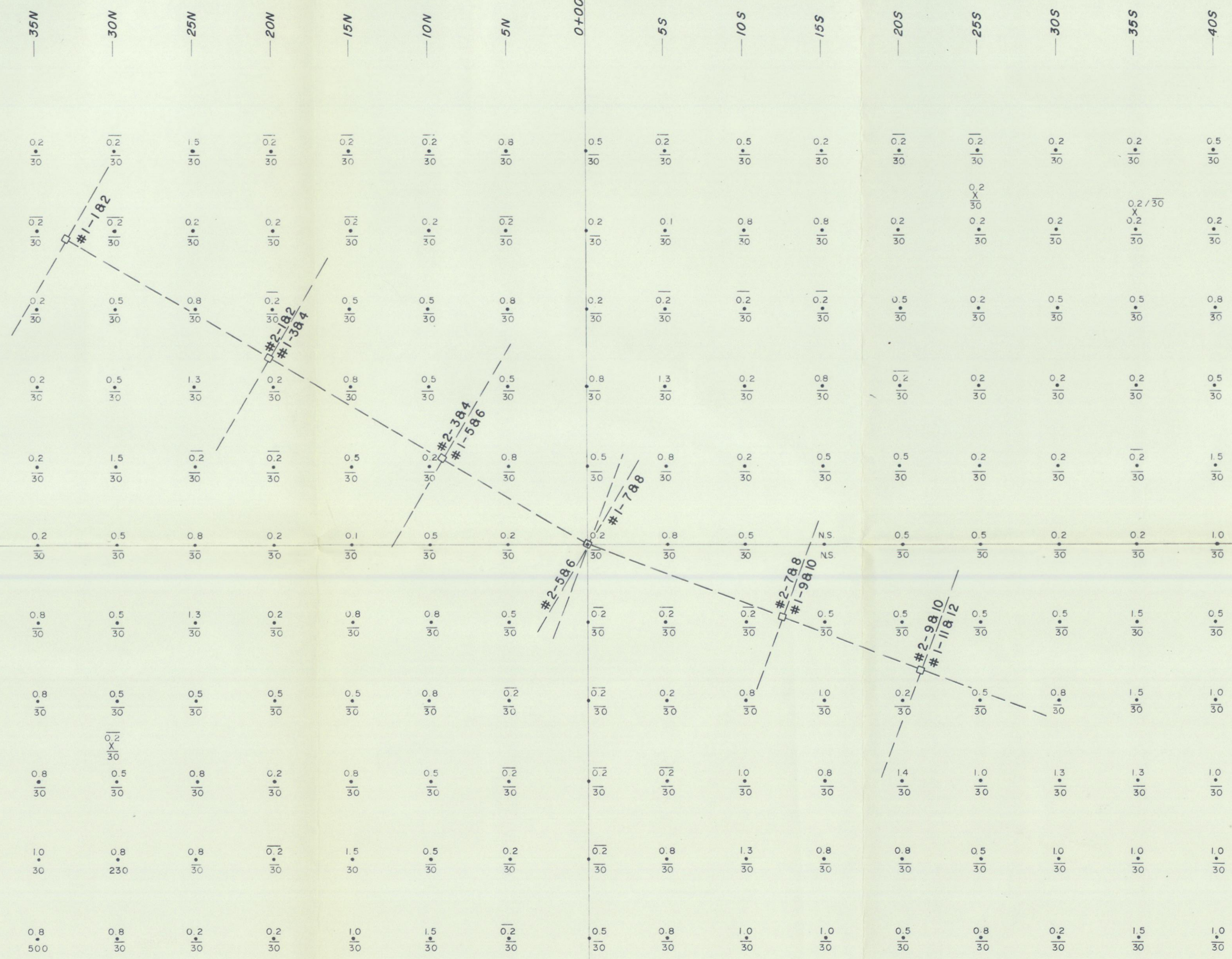
**COPPER**

<b>GEOCHEMICAL SURVEY</b> <b>TONI TIGER CLAIMS</b> DAWSON RANGE SYNDICATE, Y.T.	
<b>ARCHER, CATHRO &amp; ASSOCS. LTD.</b> <i>Consulting Geological Engineers</i>	
DATE	Dec. 1969
DRAWN	G.L.W.
SCALE	1" = 500'
DWG. No. <b>4</b>	

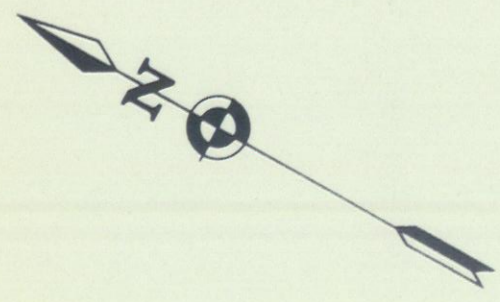


MOLYBDENUM

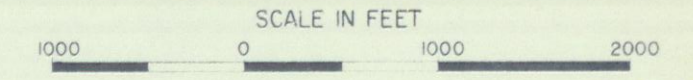
GEOCHEMICAL SURVEY		5
TONI TIGER CLAIMS		
DAWSON RANGE SYNDICATE, Y.T.		
ARCHER, CATHRO & ASSOCS. LTD.		
Consulting Geological Engineers		
DATE	Dec. 1969	DWG. No.
DRAWN	G. L. W.	
SCALE	1" = 500'	



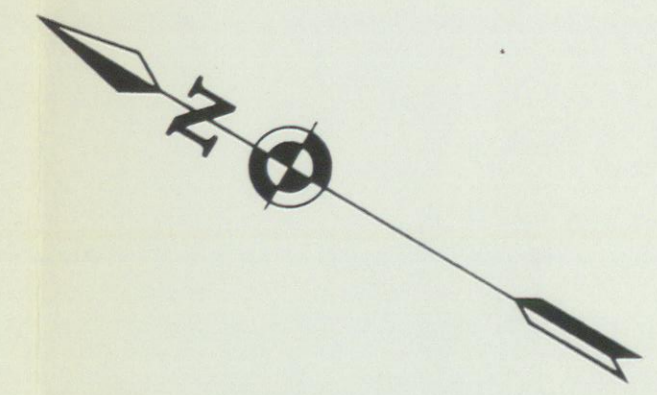
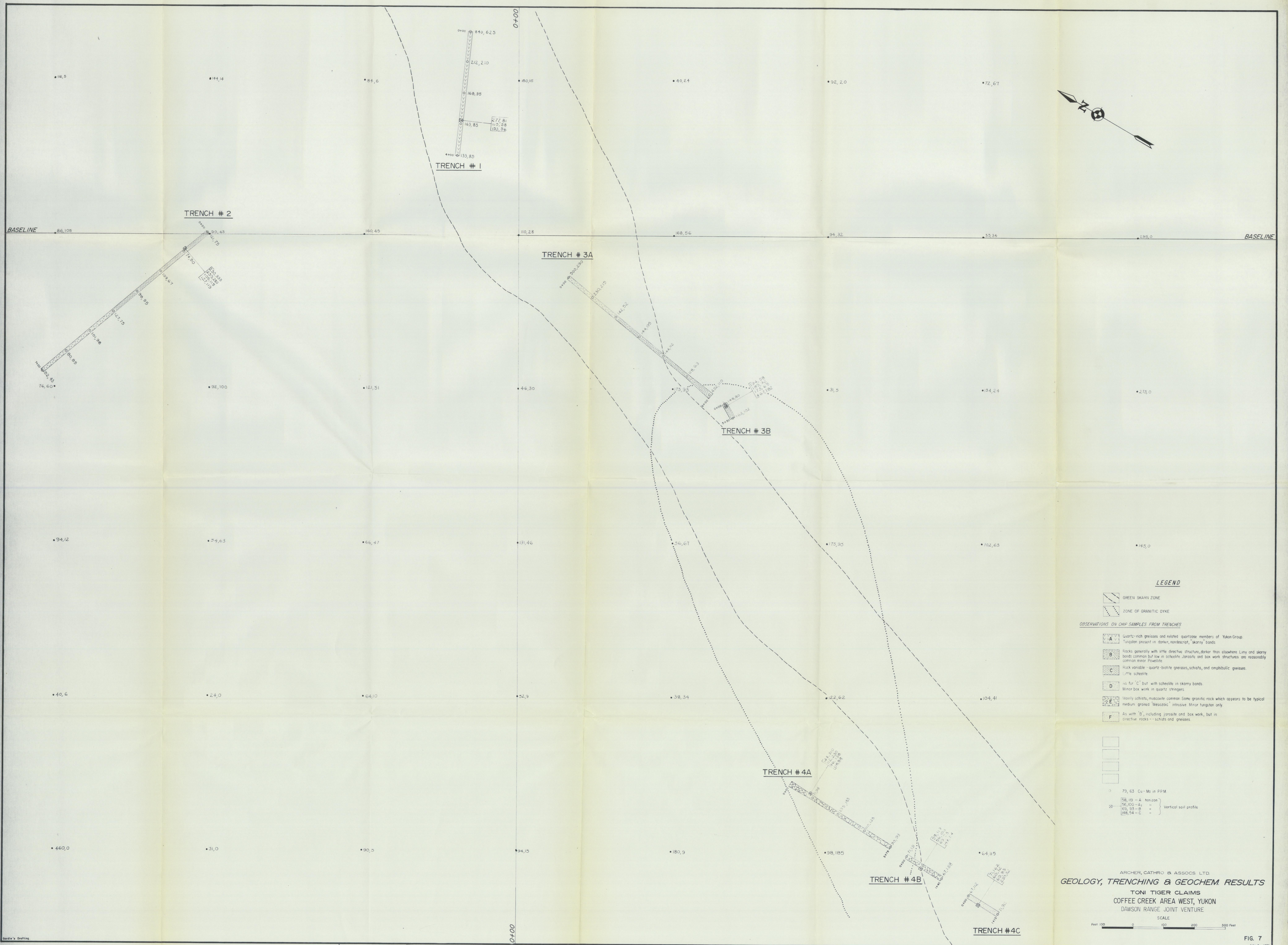
- LEGEND**
- CLAIM POST
  - 0.8 SOIL SAMPLE Ag PPM
  - $\frac{\cdot}{30}$  SOIL SAMPLE Au PPB ( $\frac{\cdot}{30}$  represents an analysis less than 30 Au PPB)
  - X SILT SAMPLE



ARCHER, CATHRO & ASSOCS. LTD.  
**SILVER & GOLD**  
**GEOCHEMICAL SURVEY**  
 TONI TIGER CLAIMS-COFFEE CREEK WEST  
 DAWSON RANGE JOINT VENTURE



**FIG. 6**  
 July 2, 1970



**LEGEND**

- GREEN SKARNI ZONE
- ZONE OF GRANITIC DYKE

**OBSERVATIONS ON CHIP SAMPLES FROM TRENCHES**

- A** Quartz-rich gneisses and related quartzite members of Yukon Group. Tungsten present in darker, non-descript, "skarny" bands.
- B** Rocks generally with little directive structure, darker than elsewhere. Limy and skarny bands common but low in scheelite. Jarosite and box work structures are reasonably common. Minor Powellite.
- C** Rock variable - quartz-biotite gneisses, schists, and amphibolite gneisses. Little scheelite.
- D** As for "C" but with scheelite in skarny bands. Minor box work in quartz stringers.
- E** Mainly schists, muscovite common. Some granitic rock which appears to be typical medium-grained "Mesozoic" intrusive. Minor tungsten only.
- F** As with "B", including jarosite and box work, but in directive rocks - schists and gneisses.

- 79, 63 - Cu-Mo in PPM
- 56, 105 - A horizon
- 65, 93 - B horizon
- 148, 54 - C horizon

ARCHER, CATHRO & ASSOCS LTD.  
**GEOLOGY, TRENCHING & GEOCHEM RESULTS**  
 TONI TIGER CLAIMS  
 COFFEE CREEK AREA WEST, YUKON  
 DAWSON RANGE JOINT VENTURE

SCALE  
 Feet 100 0 100 200 300